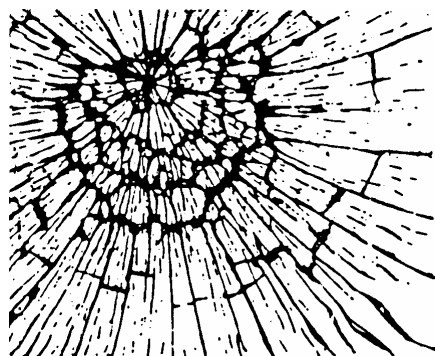


Structural Integrity and Fracture

Proceedings of the International Conference, SIF2004

edited by

A Atrens, J N Boland, R Clegg, J R Griffiths



26-29 September 2004

Brisbane, Australia

Published by the Australian Fracture Group Inc.

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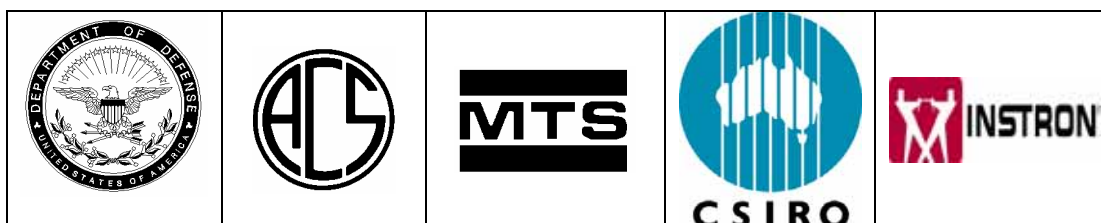
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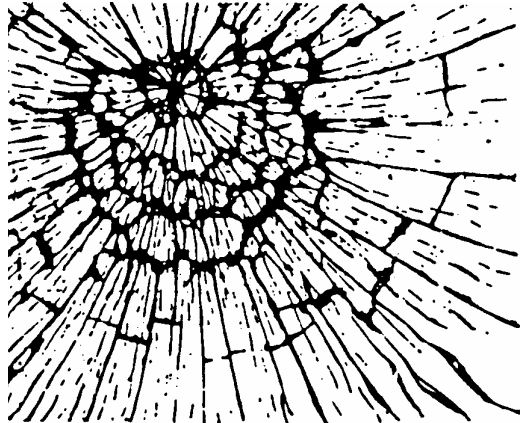


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PREFACE

The Australian Fracture Group was formed in 1971 and became a member of the International Congress of Fracture in 1973. It held its first formal conference in Melbourne in October 1974. Since then, conferences have been held at roughly two-year intervals, with its largest venture, ICF9, being held in Sydney in 1997 under the Chairmanship of Professors Mai and Karihaloo. This present conference is the 16th in the series: a list of previous events is given on the next page. The previous conference, SIF2002, was held in Perth under the Chairmanship of Professor Dyskin, and was the first time the AFG had ventured away from the eastern capital cities (Melbourne, Sydney and Canberra). This present conference is, therefore, a further geographical excursion.

The papers contained in this volume have been refereed to the standard of international scientific conferences with at least two referees for each paper and I am very grateful to the many people who have given of their time in this task: a list is given on page iii.

The Organising Committee is particularly pleased to thank the US Air Force Asian Office of Aerospace R & D, Australian Calibrating Services Ltd, Instron Australia and the CSIRO for financial support. It has meant that the cost of registrations (and, especially, the cost to students) has been kept to a reasonable level.

In 1997, at ICF7, the AFG made its first formal mention of outstanding contributions to fracture mechanics by Australians. At that time the AFG was pleased to honour Dr Alan Head of CSIRO (and a founding member of the International Congress on Fracture) for his work on fatigue, in particular, but also for research in the dislocation approach to crack theory. The 1998 conference mentioned Dr Alan Baker for his contributions to the application of the crack patching technique. This year the AFG is delighted to dedicate the conference to the work of Dr Brian Lawn.

BRIAN R. LAWN

Brian gained his BSc and PhD degrees in Physics at the University of Western Australia in 1959 and 1963, respectively. He then spent four years as a Postdoctoral Fellow in the School of Physics at the University of Bristol and the Department of Engineering and Materials Science at Brown University. From 1968 he held a professorial position in Applied Physics at the University of New South Wales. In 1981 Dr. Lawn joined the National Institute of Standards and Technology in Washington, DC, and in 1987 he was appointed to the position of NIST Fellow. He has held Adjunct Professor appointments at Lehigh and Carnegie Mellon Universities, the University of Maryland, the University of Western Australia, Curtin University, and Xi'an Jiatong University. Dr. Lawn's research interests are extensive and he is especially well-known for the classic monograph, "Fracture of Brittle Solids". In 2002 he was recognized by the Institute for Scientific Information as "one of the most highly cited, influential researchers in Materials Science" (1981–1999) and in 2001 he was elected a member of the U.S. National Academy of Engineering.

John Griffiths

Chair, SIF2004 and President of the Australian Fracture Group

AFG CONFERENCES

1974	Melbourne	Dr Bob Leicester/Dr Maurice de Morton
1977	Melbourne	Dr Neil Ryan
1980	Melbourne	Dr Neil Ryan
1982	Melbourne	Professor George Sih/Dr Neil Ryan/Dr Rhys Jones
1985	Sydney	Professor Bhushan Karihaloo
1987	Sydney	Professor Yiu-Wing Mai
1988	Melbourne	Dr Neil Ryan
1990	Sydney	Professor Yiu-Wing Mai
1993	Melbourne*	Dr Manfred Heller
1994	Canberra	Dr Arjen Romeyn
1996	Melbourne [†]	Professor John Williams/Professor Yee Cheong Lam
1997	Sydney, ICF9	Professor Bhushan Karihaloo/Professor Yiu-Wing Mai
1998	Melbourne	Dr Chun Wang
2000	Sydney	Dr Greg Heness
2002	Perth	Professor Arcady Dyskin
2004	Brisbane	Dr John Griffiths

* Special session in 5th Australian Aeronautical Conference, Melbourne

[†] Special session in 5th Australasian Congress on Applied Mechanics

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